

REMARKS

After entry of this amendment, claims 1, 5, 7, 11, 22, and 24-25 will be pending in this patent application. By this amendment, claim 1 is amended to place it in better form and to resolve certain of the Examiner's objections, and claims 11 and 22 are also amended to resolve objections. Additionally, new independent claims 24 and 25 have been added to protect additional features of the invention. Claim 14 is canceled. Support for new claims 24 and 25 may be found, *inter alia*, in Figs. 8-13. No new matter has been added. Reconsideration and allowance of this patent application are respectfully requested in view of the above amendments and the following remarks.

Drawing Objection

The drawings were objected to under 37 C.F.R. § 1.83(a) as allegedly failing to show all of the features of the invention specified in the claims. Claim 14 has been canceled. Therefore, the objection is moot and should be withdrawn.

Claim Objections

Claims 1, 5, 7, 11, 14 and 22 were objected to because of inconsistencies in the recitation of "the at least one streamlined recess portion." (The other dependent claims were objected to based on their dependencies.) Applicant has amended claims 1, 11 and 22 to standardize the recitation of that element. Accordingly, Applicant respectfully submits that the objection has been overcome and requests that it be withdrawn.

35 U.S.C. § 112, 2nd Paragraph Rejection

Claims 1, 5, 7, 11, 14, and 22 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite because of the phrase “one of an integrally formed washer-shaped boss body” in claim 1. The other claims were rejected as a matter of form, based on their dependencies. Applicant respectfully traverses this rejection.

Claim 1 has been amended to remove the language “one of” Therefore, Applicant respectfully submits that claim 1, as amended, is definite, as are the claims that depend from it. Accordingly, Applicant respectfully requests that the rejection be withdrawn and not extended to the new claims.

35 U.S.C. § 103 Rejection

Claims 1, 5, 7, 11, 14, and 22 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,303,906 to Cotter et al., in view of U.S. Patent No. 3,699,845 to Ifield. In making the rejection, the Examiner asserts that Cotter et al. discloses a gas opening/closing pin, but admits that Cotter et al. does not disclose a streamlined recess, and relies on Ifield to disclose that feature. Applicant respectfully disagrees with the Examiner’s position and respectfully traverses the rejection.

In order for a prior art reference or combination of references to render a claim obvious, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference or references, when combined, must disclose or suggest all of the claim limitations. The motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent applicant’s disclosure.

Claim 1 recites a “gas opening/closing pin which opens and closes a gas inlet and outlet formed in a pipe holder which seals one end portion of a cylinder.” Among other features, the claimed gas opening/closing pin includes “at least one streamlined recess portion which does not extend about the entire outer peripheral surface of the central portion positioned to open the gas inlet and outlet formed on a side of the outer peripheral surface of the central portion of the gas opening/closing pin.” Applicant respectfully submits that Cotter et al. discloses an entirely different type of gas spring that does not include a “gas opening/closing pin” or any of the other features recited in claim 1. Instead, Cotter et al. appears to disclose a piston with an internal passageway or port for gas relief.

However, regardless of the specific disclosures of Cotter et al., Applicant respectfully submits that Ifield does not disclose or suggest a “streamlined recess” as recited in claim 1. Applicant submits that Ifield is directed to the contours of ports in rotary hydraulic pumps. Moreover, Applicant notes that Ifield discloses a “streamlined profiled bore 29 in the wall of the port.” Applicant respectfully submits that the “streamlined profiled bore 29” of Ifield is not a recess; rather, it is a hole. Thus, even if Ifield and Cotter et al. were to be combined, the combination would not disclose or suggest each and every feature recited in claim 1. Instead, and in view of the above, Applicant respectfully submits that, at most, the result of the putative combination would be a piston with an internal streamlined hole or bore, not a gas opening/closing pin with a streamlined recess.

Accordingly, Applicant submits that claim 1, and the claims that depend from claim 1, are not obvious over the cited combination of references. Therefore, Applicant respectfully requests that the rejection be withdrawn.

New Claims

New independent claim 24 recites a gas opening/closing pin “having one or more longitudinal inwardly continuously contoured troughs formed in a side outer surface thereof.”

New independent claim 25 is a combination-subcombination claim reciting the gas opening/closing pin in combination with certain other features. Applicant respectfully submits that the cited combination of references does not disclose or suggest at least those features of claims 24 and 25.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are allowable over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass this application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', with a long horizontal line extending to the right.

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